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13. ABSTRACT (Maximum 200 words) NNSP'97 was held in Amelia Island Plantation, Amelia Island, Florida, September 24-26, 1997. NNSP'97 was sponsored by the Neural Networks Technical Committee of the IEEE Signal Processing Society, in cooperation with the IEEE Neural Networks Council and with co-sponsorship from the AFOSR. This year two topics were announced in the call for papers. The goal was to create a critical mass of submissions and dedicate a full session to discuss a topic of current interest. This year topics were blind signal processing and pattern recognition applications. we had an exciting technical program with first rate papers and speakers. We invited as plenary speakers Drs. Simon Haykin, from McMaster University, David Brown from F.D.A., S.Y. Kung, from Princeton, J.F. Cardoso, from Paris V, and Yann LeCun from ATT/BellLabs. Eighty high quality papers were presented with contributions from 16 countries. The proceedings were distributed at the conference, and were published by the IEEE Press. The organization sponsored ten students to present their work. The highlights of the conference were the following: the advances made on blind source separation, both at the theoretical level and in practical applications; the advances in the implementation of the support vector machines; the interest in recurrent neural networks; the exciting new applications of neural networks to multimedia, and the continuing interest in biomedical applications. All the sessions were very lively, in particular the excellent poster sessions where lengthy discussions among researchers were conducted. Overall this was high quality conference, which everybody enjoyed greatly.					
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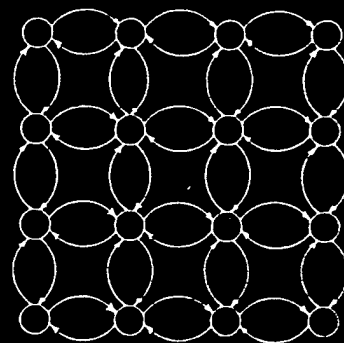
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Neural networks for Signal Processing VII

**PROCEEDINGS
OF THE
1997 IEEE
WORKSHOP**



Edited by
Jose Principe
Lee Gile
Nelson Morgan
Elizabeth Wilson



NEURAL NETWORKS FOR SIGNAL PROCESSING VII

**PROCEEDINGS
OF THE 1997 IEEE
SIGNAL PROCESSING
SOCIETY WORKSHOP**

**Seventh in a Series of Workshops
Organized by the IEEE Signal Processing Society
Neural Networks Technical Committee**

Edited by

**Jose Principe
Lee Giles
Nelson Morgan
Elizabeth Wilson**

**Published under the sponsorship of the IEEE Signal Processing Society
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The chapters in this book are based on presentations given at the IEEE Signal Processing Society Workshop on Neural Networks for Signal Processing.

Preface

This book contains referred papers presented at the Seventh IEEE Workshop on Neural Networks for Signal Processing (NNSP '97) held at the Amelia Island Plantation, Amelia Island, Florida on September 24-26, 1997.

The Neural Networks Technical Committee of the IEEE Signal Processing Society sponsored NNSP '97, in cooperation with the IEEE Neural Network Council and with co-sponsorship from the Air Force Office of Scientific Research (AFOSR). We designed the workshop to serve as a regular forum for researchers in academia and industry who are interested in the exciting field of neural networks for signal processing. Neural networks offer a fresh view for the important problems faced in signal processing because they extend linear models and go beyond the assumptions of stationarity and Gaussianity traditionally imposed in signal processing.

This year we announced two topics in the call for papers. The goal was to create a critical mass of submissions and dedicate a full session to discuss a topic of current interest. This year's topics are blind signal processing and biomedical applications. Each is important in its own right. Blind signal processing is a difficult but exciting area of signal processing with many practical applications for which the use of nonlinearity is key for acceptable solutions. The biomedical area has long been a challenging area due to the imprecise nature of human reasoning and the need for more sophisticated quantitative tools. Neural networks and other approximate reasoning methods are key players in this effort. We hope that this approach of electing topics will be successful and will make these proceedings a necessary reference for the advances reported in each field.

Our deep appreciation is extended to Drs. Simon Haykin, S.Y. Kung, J.F. Cardoso, Yann LeCun and David Brown for their insightful plenary talks. Our sincere thanks go to all members of the Technical Committee for the excellent and timely reviews, and above all to the authors whose contributions made this workshop possible.

Continuing with the tradition of paperless communication, this year's reviews and announcements were all electronic. Thanks to Dong-Wei Chen and Craig Fancourt for keeping the NNSP '97 Web page (<http://www.cnel.ufl.edu/nns97/>) current and effective. Special thanks go to Ms. Sharon Bosarge for her dedication and hard work to coordinate the many details necessary to put together the program and the local arrangements.

Jose C. Principe
Lee C. Giles
Bert DeVries
Nelson H. Morgan

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